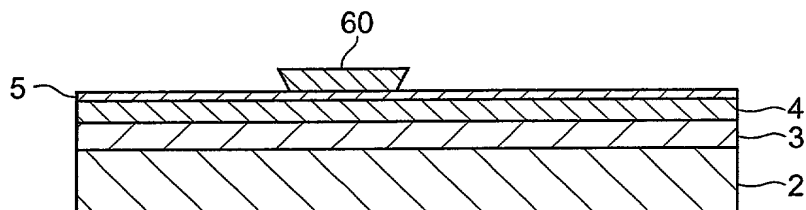
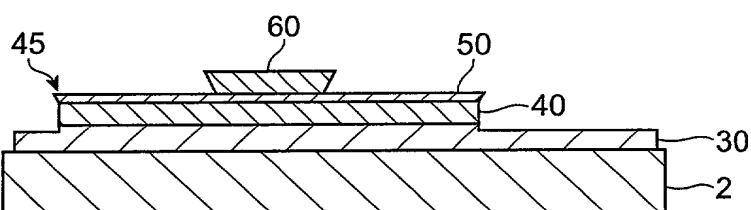


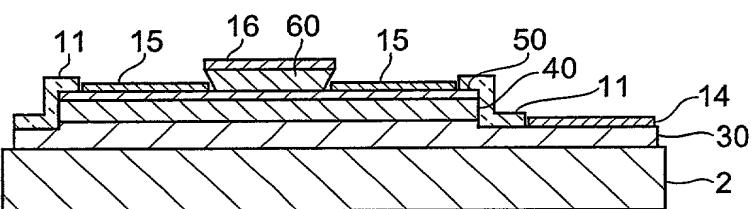
**Fig. 1B**



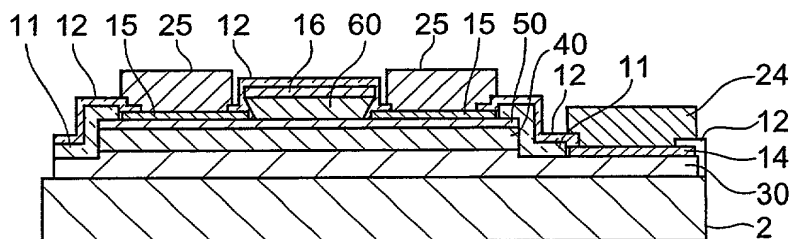
**Fig. 1C**



**Fig. 1D**



**Fig.1E**



**Fig. 1F**

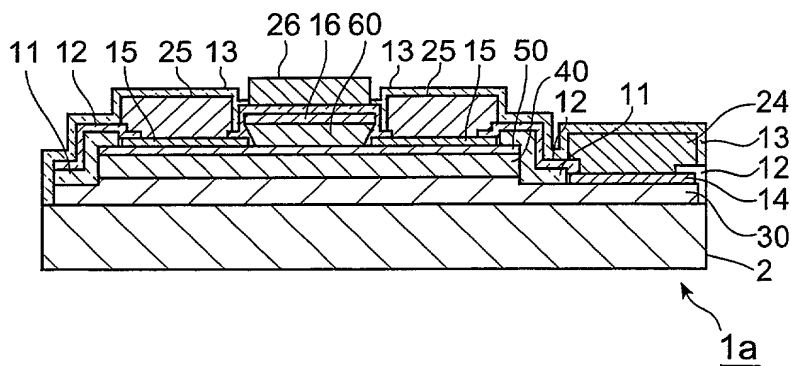
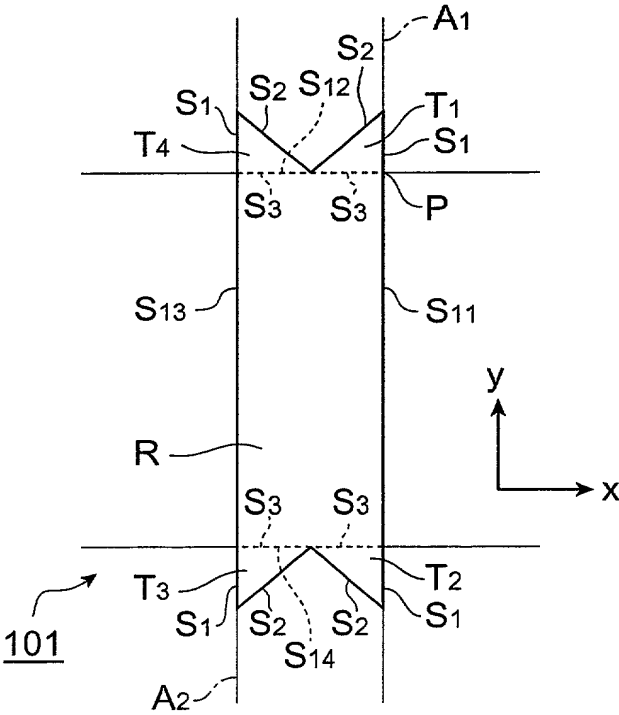


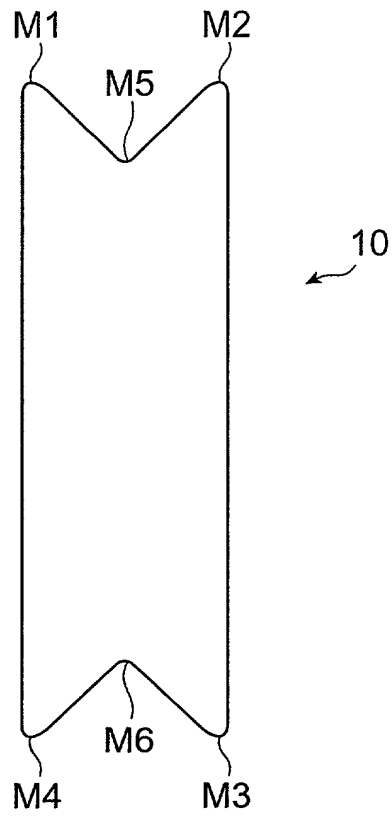
Fig.2

FILM NAME	MATERIALS	CONDUCTIVE TYPE	DOPANT	CARRIER CONCENTRATION (cm <sup>-3</sup> )	FILM THICKNESS (nm)
EMITTER FILM 6	InP	n	Si	4~20×10 <sup>18</sup>	250
BASE FILM 5	InGaAs	p <sup>+</sup>	Zn	4×10 <sup>19</sup>	50
COLLECTOR FILM 4	InGaAs	n	Si	5×10 <sup>16</sup>	500
SUBCOLLECTOR FILM 3	InGaAs	n <sup>+</sup>	Si	1×10 <sup>19</sup>	300

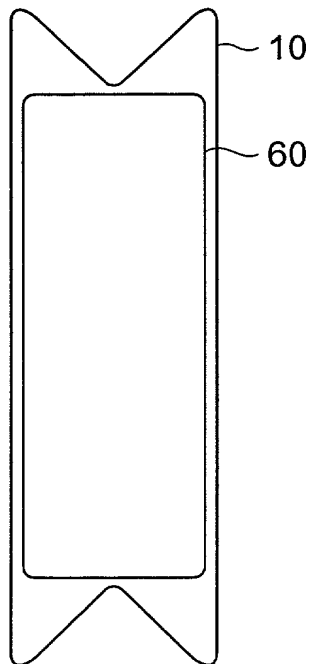
Fig.3



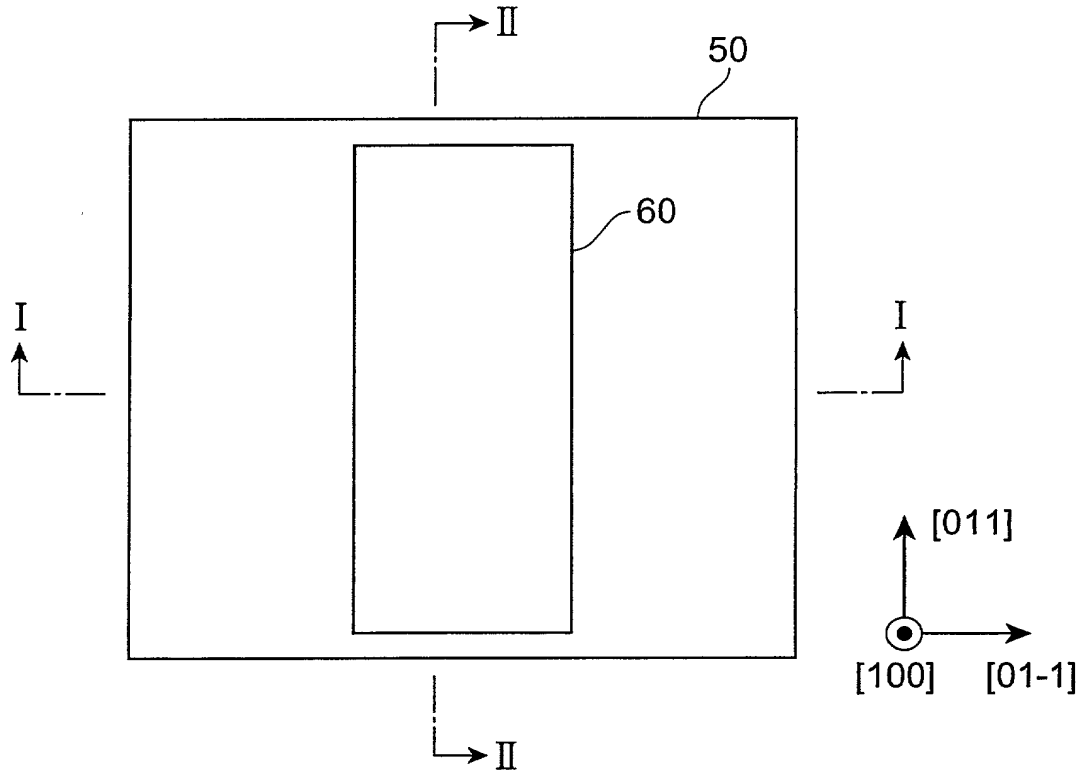
**Fig.4**



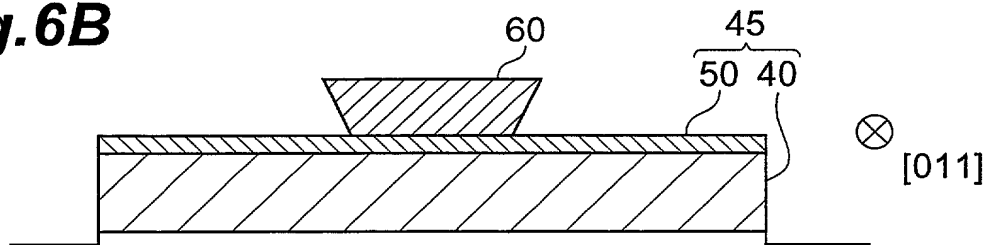
**Fig.5**



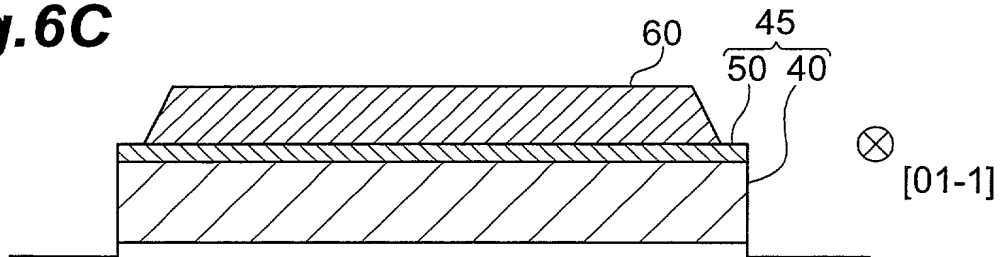
**Fig.6A**



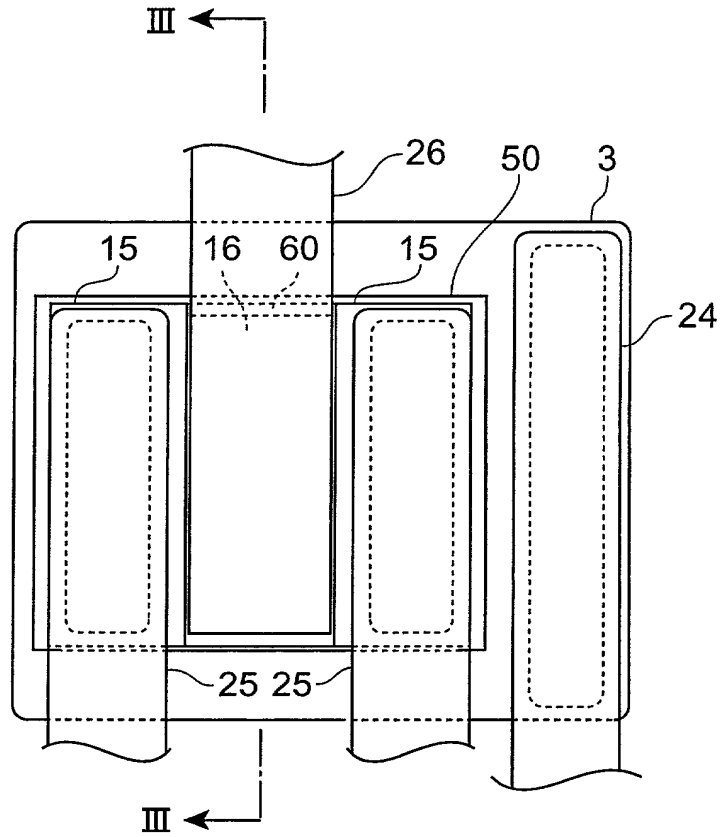
**Fig.6B**



**Fig.6C**



**Fig.7A**



**Fig.7B**

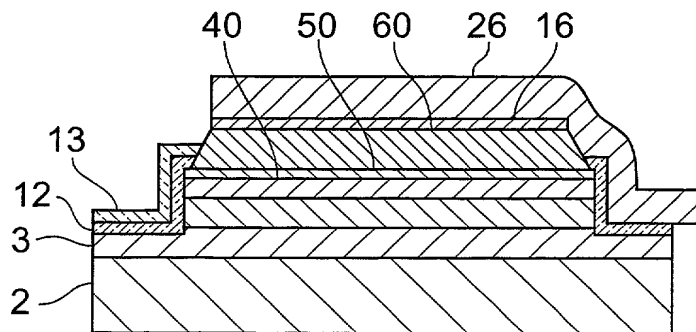


Fig.8A

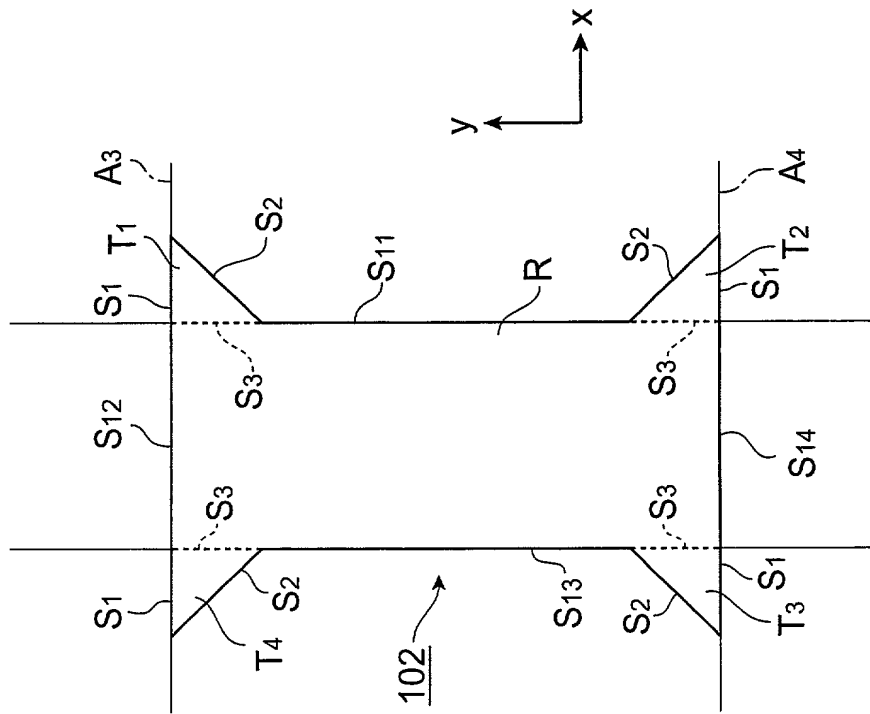


Fig.8B

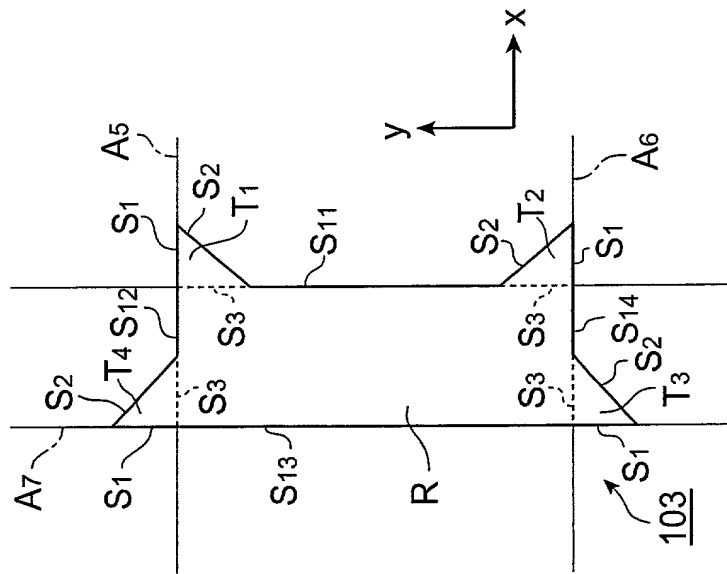


Fig.9A

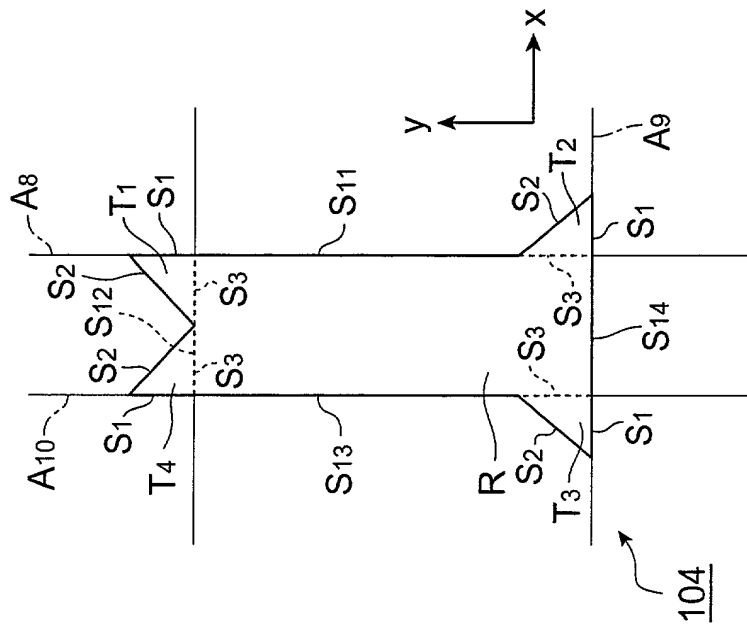
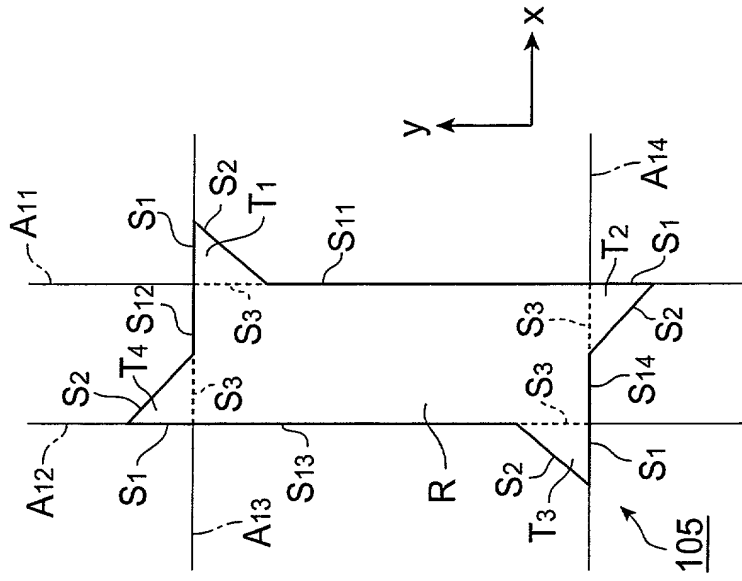
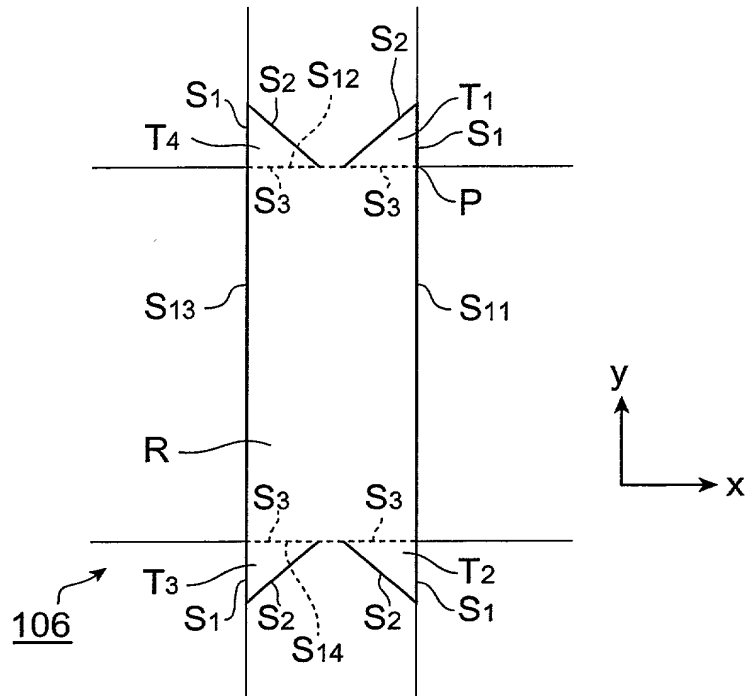


Fig.9B



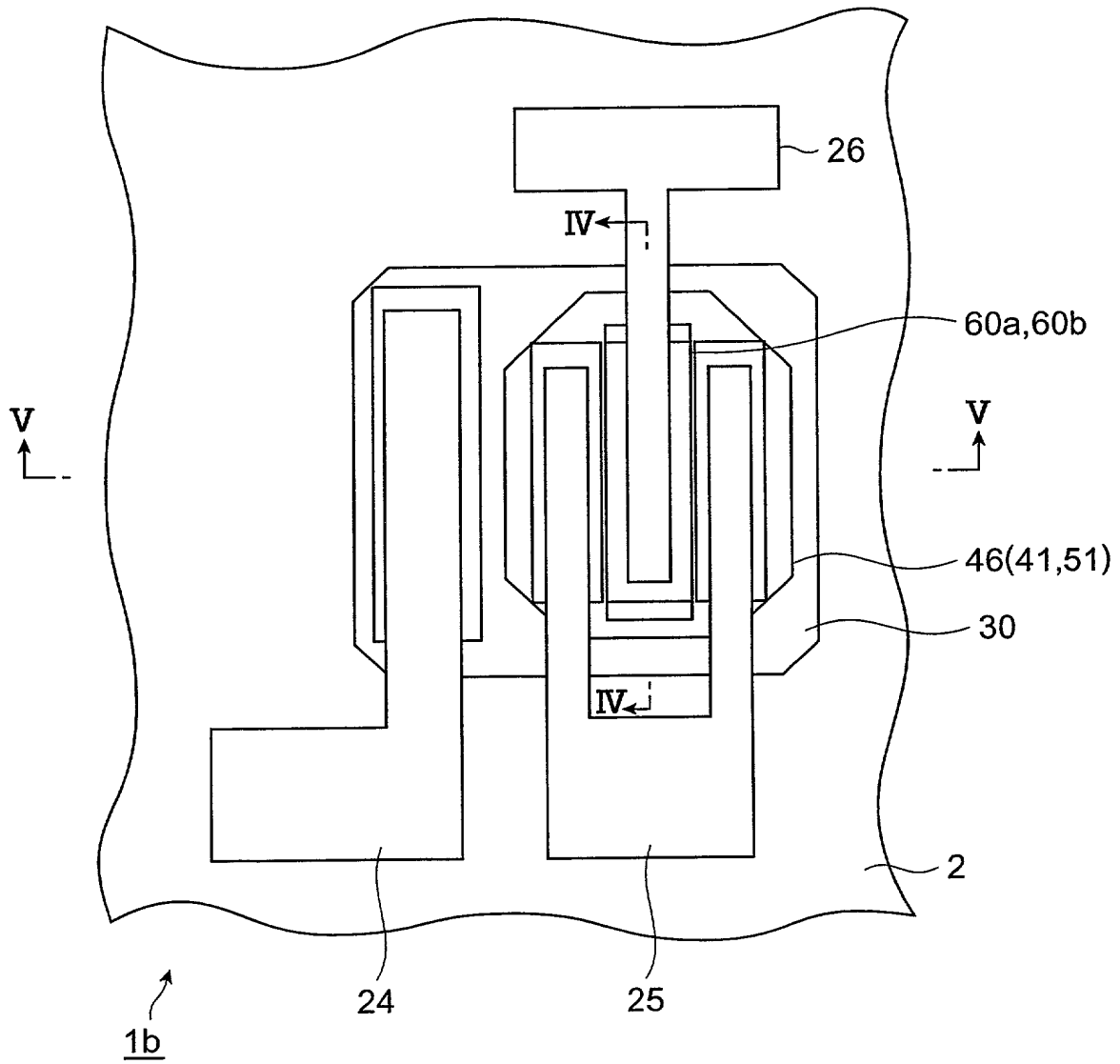
**Fig.10**



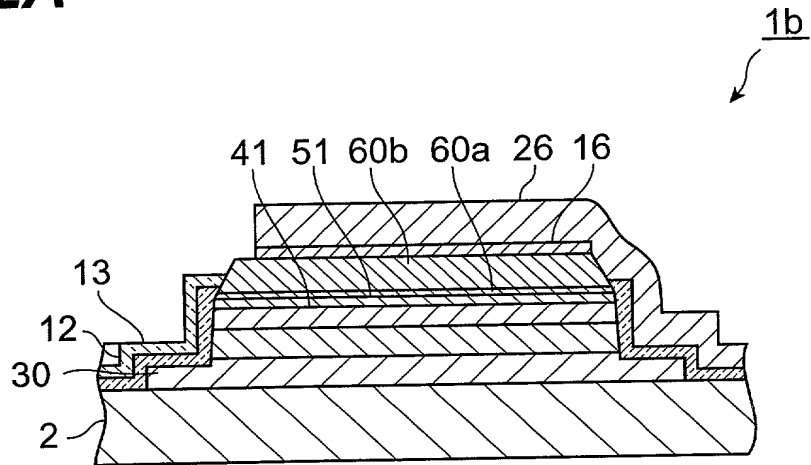
10036950.12204  
FO/22T"05652007



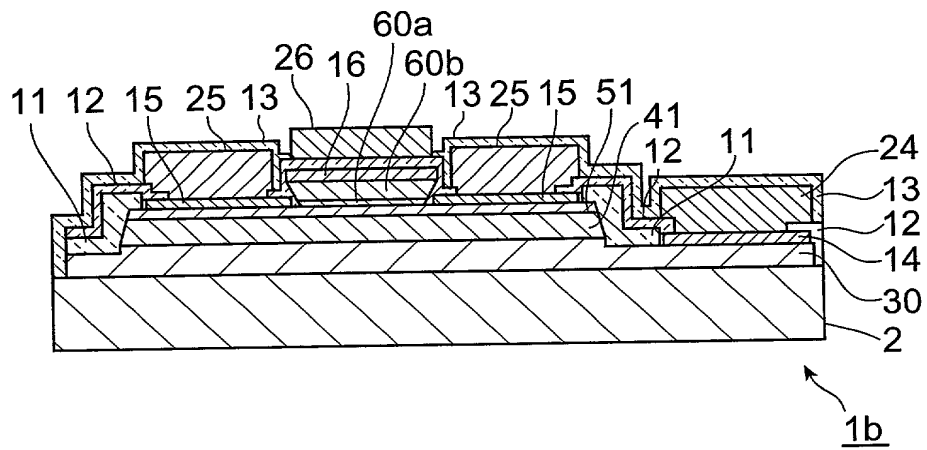
**Fig.11**



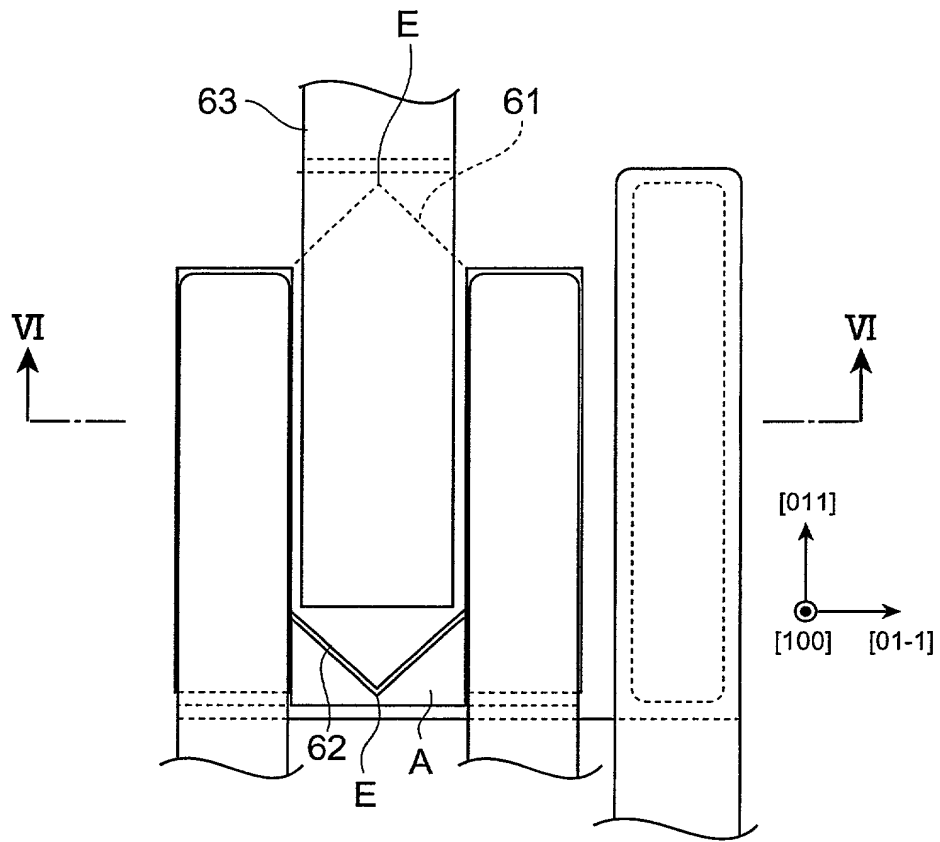
**Fig.12A**



**Fig.12B**



**Fig.13A**



**Fig.13B**

